Remarks

The present amendment responds to the final Official Action dated October 3, 2005. The

Official Action rejected claims 1-59 under 35 U.S.C. §102(b) based on Shimizu et al. E.P. Patent

No. EP0654477 (Shimizu). According to paragraph 3 of the Official Action, claims 1-59 appears

to be rejected under 35 U.S.C. §103(a) based on Abe U.S. Patent No. 5,662,190 (Abe). While

we note that in paragraph 4 the Official Action states that claims 1-59 were rejected under 35

U.S.C §102(b) as being anticipated by Abe, the language of the rejection is framed in terms of

obviousness. These grounds of rejection are addressed below following a brief discussion of the

present invention to provide context.

Claims 1-59 are presently pending.

The Present Invention

A system according to an aspect of the present invention comprises a system for

monitoring movement of an item in a post scan area of a self checkout terminal. The system

suitably uses a scale in order to sense the weight of items placed in the post scan area. The

system is adapted to monitor unauthorized placement of items on the post scan surface while

allowing the reshuffling of items in the post scan area. Reshuffling of items is the removal of an

item from one region of the post scan area and the replacement of the item in another region, or

the same region, of the post scan area.

By way of example, such reshuffling can occur as a customer moves items around to

make room for newly scanned items, to organize items for bagging, or as part of the bagging

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process. While such activity is perfectly normal, someone trying to defraud the store may seek to

remove a scanned item and substitute a second more expensive item that is not scanned. When an

an item is removed from the post scan area, the system detects and records a decrease in the

weight detected by the scale. When an item is replaced, the system detects an increase in the

weight detected by the scale. The system compares the detected increase in weight to the

previously detected and recorded decrease in weight. If the weight increase matches the weight

decrease, indicating that the same items were replaced that were previously removed, a match

signal is generated, indicating that no security breach has been detected. If the weight increase

does not match the weight decrease, a security breach may have been attempted, and the system

suitably makes an appropriate response, such as instructing a customer to remove an item from

the post scan area.

The Art Rejections

As addressed in greater detail below, Shimizu and Abe do not support the Official

Action's reading of them and the rejections based thereupon should be reconsidered and

withdrawn. Further, the Applicant does not acquiesce in the analysis of Shimizu and Abe made

by the Official Action and respectfully traverses the Official Action's analysis underlying its

rejections.

Claims 1-59 were rejected under 35 U.S.C. §102(b) based on Shimizu. Shimizu

addresses a shopping cart having a self scanning function to allow a customer to purchase a

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commodity. Shimizu, col. 1, lines 1-16. The shopping cart also includes a weight determination

section 51a, a difference calculation section 51g-2, and a weight comparison section 51h.

Shimizu, Fig.15. As an item is scanned and placed in the shopping cart, the weight of the item is

compared against a weight of the item retrieved from an item information file. If the weights are

different, notification is made to the customer by a buzzer. Shimizu, Fig. 17. However, Shimizu

does not address movement of items once their weights have been reconciled with weights stored

in the data file.

Unlike Shimizu, the present invention addresses shuffling in a post-scan area of a self-

checkout terminal. To this end, the present invention detects removal of a first item or items, a

first number of items, from the post-scan surface and generates a weight decrease value in

response thereto which corresponds to the weight of the item or items. The present invention

detects placement of an item or items, a second number of items, onto the post-scan surface and

generates a first weight increase value in response thereto which corresponds to the weight of the

item or items. The first weight decrease value is then compared with the first weight increase

value. A first match control signal is generated if the two values match. The present invention

advantageously allows a customer to move or shuffle items which have previously been scanned

or otherwise entered in the self-service checkout terminal. For example, after the customer scans

a loaf of bread, the present invention advantageously allows the customer to reposition the bread

on a post-scan shelf during the transaction to prevent the bread from being crushed by other items

being purchased without sounding an alarm. Claim 1 reads as follows:

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A method of monitoring item shuffling in a post-scan area of a self-service checkout terminal, with the post-scan area including a post-scan surface, comprising the steps of:

detecting removal of a first number of items from the post-scan surface and generating a first weight decrease value in response thereto which corresponds to the weight of the first number of items;

detecting placement of a second number of items onto the post-scan surface and generating a first weight increase value in response thereto which corresponds to the weight of the second number of items; and

comparing the first weight decrease value to the first weight increase value and generating a first match control signal in response thereto if the first weight decrease value matches the first weight increase value. (emphasis added)

Shimizu does not disclose and does not make obvious "generating a first weight decrease value"

from the removal of an item from the post scan surface in combination with "generating a first

weight increase value" from the placement of another item as claimed in claim 1. Shimizu also

does not disclose and does not make obvious "comparing the first weight decrease value to the

first weight increase value and generating a first match control signal in response thereto if the

first weight decrease value matches the first weight increase value," as claimed in claim 1. See

also claims 12, 21, 39, 45-47, 52, 55, 56, 58, and 59. Shimizu measures increased weight of an

item added to the shopping cart and merely compares the increased weight of the item with an

expected weight for the item found in an item information data file.

Furthermore, unlike Shimizu, the present invention precludes unauthorized placement of

items on the post scan surface while allowing the movement of items in the post scan area. To

this end, the present invention compares a weight decrease value from removing an item with a

weight increase value from adding an item at the post-scan surface and generates an improper-

use signal, if the weights do not match. Shimizu does not disclose and does not make obvious

"generating an improper-use control signal if the first weight increase value (i) does not match the first weight decrease value, and (ii) is greater than the first weight decrease value," as claimed in claim 2. See also claims 13, 22, 55, 56, 58, and 59.

Claims 1-59 appear to be rejected under 35 U.S.C. §103(a) based on Abe. Abe provides no more relevant disclosure than Shimizu. Abe addresses a stationary self-scanning checkout apparatus which contains an upstream-side basket placing table 2A for holding a basket CA1 containing pre-scanned items, a stationary scanner 21A, a downstream-side basket placing table 3A for holding a basket CA2 containing post-scanned items, a scale 40A for weighing items in the downstream-side basket placing table 3A, and a passage detection sensor 35A. Abe, col. 3, line 65 - col. 4, line 12 and col. 5, lines 61-65. An error signal output is determined when an article is not detected by the passage detection sensor 35A before detection of a variation in the weight of the articles in basket CA2. Abe, col. 6, lines 7-13. Abe utilizes a weight variation in table 3A in combination with a passage detector and a scanner to determine whether an item entering basket CA1 has been properly registered.

Unlike Abe, the present invention addresses moving or shuffling an item in a post scan area while ensuring that unscanned or unentered items are not placed in the post scan area. To this end, the present invention compares a weight decrease value for an item removed from the post-scan surface with a weight increase value for an item added to the post-scan surface.

Abe does not teach and does not suggest "detecting removal of a first number of items from the post-scan surface and generating a first weight decrease value in response thereto which corresponds to the weight of the first number of items," as claimed in claim 1. Abe does not

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teach and does not suggest "detecting placement of a second number of items onto the post-scan surface," as claimed in claim 1. Abe does not teach and does not suggest "comparing the first weight decrease value to the first weight increase value," as claimed in claim 1.

Although the text at col. 2, lines 36-40 states that a variation in weight caused by the movement of an article is detected by weight variation detecting means mounted on the upstream-side article table and the downstream-side article table, the remaining Abe disclosure is silent with respect to comparisons between a detected weight variation with a weight in the pre-scan area. Even if it were assumed that Abe did disclose a weight comparison, such a comparison, unlike the present invention, would be between an item on table 2A, a pre-scan area, and the item on table 3A, a post-scan area. Consequently, Abe addresses whether an item has been properly scanned when moving an item from a pre-scan area to a post-scan area rather than moving an item off and on a post-scan area as addressed by the present invention.

Furthermore, Abe does not teach and does not suggest "generating an improper-use control signal if the first weight increase value (i) does not match the first weight decrease value, and (ii) is greater than the first weight decrease value," as claimed in claim 2. The claimed improper-use control signal is based on weight values measured at the post-scan surface allowing the present invention to determine when the removal of an entered item is replaced with an unentered item at the post-scan surface. See also claims 13, 22, 55, 56, 58, and 59.

The relied upon art fail to recognize and address the problem of moving an item around a post-scan surface while precluding unscanned items from being placed on the same surface in the
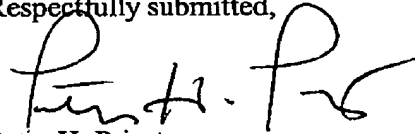
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manner advantageously addressed by the present claims. The claims are not taught, are not

inherent, and are not obvious in light of the art relied upon.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied

references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,

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